What is claimed is:

1. An evaluation method of an electrode body comprising:

providing the electrode body impregnated with a non-aqueous electrolyte comprising a positive electrode and a negative electrode wound or laminated with a separator inserted in between,

evaluating a discharge limit of said electrode body according to affinity between said separator and said non-aqueous electrolyte or an organic solvent composing said non-aqueous electrolyte.

2. The evaluation method of an electrode body according to claim 1, wherein a certain amount of said non-aqueous electrolyte or said organic solvent is dropped onto said separator and said affinity is evaluated by a reduction rate of a contact angle formed by said separator and said non-aqueous electrolyte or said organic solvent measured immediately after the dropping and after a certain lapse of time after the dropping.

3. The evaluation method of an electrode body according to claim 2, wherein when a contact angle measured immediately after said dropping is θ_1 and a contact angle measured 15 minutes after said dropping is θ_2, a combination between said separator that satisfies a relation expressed in the

following Expression (10) and said non-aqueous electrolyte or said organic solvent is decided to be good affinity.

$(\theta_1 - \theta_2)/\theta_1 > 0.4$ ... (10)

4. The evaluation method of an electrode body according to claim 3, wherein the contact angle measured immediately after said dropping is 60° or less.

5. The evaluation method of an electrode body according to claim 1, wherein said affinity is evaluated under a temperature condition of 10 to 40°C.

6. An evaluation method of an electrode body comprising:

providing the electrode body impregnated with a non-aqueous electrolyte comprising a positive electrode and a negative electrode wound or laminated with a separator inserted in between,

evaluating a discharge limit of said electrode body by permeability of said non-aqueous electrolyte or an organic solvent composing said non-aqueous electrolyte with respect to said separator.

7. The evaluation method of an electrode body according to claim 6, wherein said non-aqueous electrolyte or said organic solvent is contacted with said separator and said permeability is evaluated by the penetration rate of said non-aqueous electrolyte or said organic solvent expressed

by the amount of said non-aqueous electrolyte or said organic solvent that has passed through said separator per unit time and per unit area.

8. The evaluation method of an electrode body according to claim 7, wherein the amount of said non-aqueous electrolyte or said organic solvent that has passed for a lapse of time of two or more is measured and said penetration rate is evaluated by a gradient of a regression line formed by said measured amount of penetration of two or more.

9. The evaluation method of an electrode body according to claim 8, wherein the discharge limit of the electrode body is decided to be good when said penetration rate is 0.25 $mg/min \cdot cm^2$ or more.

10. The evaluation method of an electrode body according to claim 8, wherein the discharge limit of the electrode body is decided to be good when said penetration rate is 2 $mg/min \cdot cm^2$ or more.

11. The evaluation method of an electrode body according to claim 8, wherein the discharge limit of the electrode body is decided to be good when said penetration rate is 50 $mg/min \cdot cm^2$ or more.

12. The evaluation method of an electrode body according to claim 6, wherein said permeability is evaluated under a temperature condition of 10 to 40°C.

13. The evaluation method of an electrode body according to claim 1, wherein olefin resin is used as the material of said separator.

14. The evaluation method of an electrode body according to claim 1, wherein cellulose or cellulose derivative or paper made of a mixture of these materials is practically used as the material of said separator.

15. The evaluation method of an electrode body according to claim 1, wherein a lithium compound is used as an electrolyte to be dissolved into said organic solvent.

16. The evaluation method of an electrode body according to claim 15, wherein $LiPF_6$ is used as said lithium compound.

17. The evaluation method of an electrode body according to claim 1, wherein a mixed solvent of a ring-shaped carbonate and chain-shaped carbonate is used as said organic solvent.

18. The evaluation method of an electrode body according to claim 1, wherein a wind type electrode body is used as said electrode body.

19. The evaluation method of an electrode body according to claim 1, wherein the electrode body of a lithium secondary cell is evaluated.

20. A lithium secondary cell comprising:

a cell case, and

an electrode body provided with a positive electrode made of a positive electrode active material and a negative electrode made of a negative electrode active material contained in the cell case, wound or laminated with a separator inserted in between and impregnated with a non-aqueous electrolyte made of a lithium compound dissolved into an organic solvent,

wherein when said non-aqueous electrolyte or said organic solvent is dropped onto said separator and a contact angle measured immediately after the dropping is θ_1 and a contact angle measured 15 minutes after the dropping is θ_2, said separator and said non-aqueous electrolyte or said organic solvent satisfy a relation expressed in the following Expression (11).

$$(\theta_1 - \theta_2)/ \theta_1 > 0.4 \quad \ldots \quad (11)$$

21. The lithium secondary cell according to claim 20, wherein the contact angle measured immediately after said dropping is 60° or less.

22. A lithium secondary cell comprising:

a cell case, and

an electrode body provided with a positive electrode made of a positive electrode active material and a negative electrode made of a negative electrode active material contained in the cell case, wound or laminated with a separator inserted in between and impregnated with a non-aqueous electrolyte made of a lithium compound dissolved into an organic solvent,

wherein when said non-aqueous electrolyte or said organic solvent is contacted with said separator and the penetration rate of said non-aqueous electrolyte or said organic solvent expressed with the amount of said non-aqueous electrolyte or said organic solvent that has passed through said separator per unit time and per unit area is expressed with a gradient of a regression line formed by the amount of said non-aqueous electrolyte or said organic solvent that has passed which is equal to 2 or more measured for a lapse of time equal to 2 or more, said penetration rate is equal to or more than 0.25 $mg/min \cdot cm^2$.

23. The lithium secondary cell according to claim 22, wherein said penetration rate is equal to or more than 2 $mg/min \cdot cm^2$.

24. The lithium secondary cell according to claim 22, wherein said penetration rate is equal to or more than 50 mg/min·cm^2.

25. The lithium secondary cell according to claim 20, wherein the material of said separator is olefin resin.

26. The lithium secondary cell according to claim 20, wherein the material of said separator is substantially cellulose or cellulose derivative or paper made of a mixture of these materials.

27. The lithium secondary cell according to claim 22, wherein the material of said separator is a nonwoven fabric textile made of fabric polyolefin and said penetration rate is 2 to 30000 mg/min·cm^2.

28. The lithium secondary cell according to claim 22, wherein the material of said separator is a nonwoven fabric textile made of fabric polyolefin and said penetration rate is 50 to 5000 mg/min·cm^2.

29. A lithium secondary cell comprising:

a cell case, and

an electrode body provided with a positive electrode made of a positive electrode active material and a negative electrode made of a negative electrode active material

contained in the cell case, wound or laminated with a separator inserted in between and impregnated with a non-aqueous electrolyte made of a lithium compound dissolved into an organic solvent,

wherein the material of said separator is a nonwoven fabric textile made of fabric polyolefin and the density of said separator is 0.4 to 0.85 g/ml.

30. The lithium secondary cell according to claim 29, wherein said density is 0.6 to 0.8 g/ml.

31. The lithium secondary cell according to claim 29, wherein the thickness of said separator is 5 to 50 μm.

32. The lithium secondary cell according to claim 29, wherein said separator is obtained by compressing said nonwoven fabric textile.

33. The lithium secondary cell according to claim 29, wherein said nonwoven fabric textile is mixed with an electrical insulating inorganic or organic substance.

34. The lithium secondary cell according to claim 33, wherein said nonwoven fabric textile is mixed with said inorganic or organic substance and then compressed.

35. The lithium secondary cell according to claim 32, wherein the weighing capacity of said nonwoven fabric textile before the compression is 5 to 30 g/m^2.

36. The lithium secondary cell according to claim 33, wherein said inorganic substance is an oxide and/or carbonate.

37. The lithium secondary cell according to claim 33, wherein said inorganic substance is at least one type selected from a group of alumina, calcia, magnesia, calcium carbonate, magnesium carbonate and zeolite.

38. The lithium secondary cell according to claim 33, wherein said organic substance is at least one type selected from a group of methyl cellulose derivative, fluorine-based high polymer and rubber.

39. The lithium secondary cell according to claim 33, wherein said organic substance is at least one type selected from a group of carboxymethyl cellulose (CMC), polytetrafluoroethylene (PTFE), polyvinylidene fluoride (PVDF) and styrene-butadiene rubber (SBR).

40. The lithium secondary cell according to claim 20, wherein said lithium compound is $LiPF_6$.

41. The lithium secondary cell according to claim 20, wherein said organic solvent is a mixed solvent of ring-shaped carbonate and chain-shaped carbonate.

42. The lithium secondary cell according to claim 20, wherein said positive electrode active material is a lithium manganate having a cubic system spinel structure whose main components are Li and Mn.

43. The lithium secondary cell according to claim 20, wherein the capacity of the cell is 2 Ah or more.

44. The lithium secondary cell according to claim 20, which is to be mounted on a vehicle.

45. The lithium secondary cell according to claim 44, which is to be used for an electric vehicle or hybrid electric vehicle.

46. The lithium secondary cell according to claim 44, which is to be used to start an engine.

47. A method of manufacturing a lithium secondary cell separator comprising:

compressing a nonwoven fabric textile made of fabric polyolefin to obtain a thin-film separator for a lithium secondary cell.

48. The method of manufacturing a lithium secondary cell separator according to claim 47, wherein an inorganic substance or organic substance is supported with said nonwoven fabric textile and the supported body obtained is compressed.

49. The method of manufacturing a lithium secondary cell separator according to claim 47, wherein said compression is performed under a temperature condition of 10 to 160°C.

50. The method of manufacturing a lithium secondary cell separator according to claim 47, wherein said compression is performed with a compression load of 10 to 100 ton.

51. The method of manufacturing a lithium secondary cell separator according to claim 47, wherein said compression is performed with roll press.

52. The method of manufacturing a lithium secondary cell separator according to claim 51, wherein when said supported body is sent to the roll press, a feeding tension of 0.1 to 3 kg is applied to said supported body.

53. The method of manufacturing a lithium secondary cell separator according to claim 47, wherein a nonwoven fabric

textile made of fabric polyolefin having a weighing capacity of 5 to 30 g/m^2 is used.